IN THE CLAIMS

Please cancel claims 1-18 without prejudice or disclaimer of the subject matter recited therein.

Please add claims 19-41 prior to cancellation of claims 1-18, as follows:

---19. A ceramic multi-layer filter comprising:

at least two layers, said at least two layers comprising the same or different ceramic materials, and a different particle size of ceramic particles in said at least two layers;

one of said at least two layers is a support layer and at least one other layer of said at least two layers is present as a layer with ceramic material with a smaller particle size;

particle surfaces of all ceramic particles in each of said at least two layers, during formation of said at least two layers, are wet entirely or partially with at least one material which wets the surfaces of the ceramic particles and has the same or approximately the same thermal coefficient of expansion as the ceramic particles, and the particle size, particle morphology and particle composition/crystal structure of the ceramic particles is not altered or only slightly altered, and in which at least one of spot and surface connections are formed between the particles; and

pore volume and pore size between the ceramic particles is reduced by the material only slightly or only partially but not by more than 50%.

20. The ceramic multi-layer filter according to claim 19, wherein, when more than two layers are present on the support layer, the particle size of the ceramic particles decreases in a direction going away from the support.

21. The ceramic multi-layer filter according to claim 19, wherein said at least two layers comprise layers of the same ceramic material.

22. The ceramic multi-layer filter according to claim 21, wherein the ceramic material is silicon carbide or aluminum oxide.

23. The ceramic multi-layer filter according to claim 19, wherein the ceramic material in all layers of the filter and the material which wets the surfaces of the ceramic particles, have a same composition in all layers of the filter.

24. The ceramic multi-layer filter according to claim 19, wherein the material that wets the surfaces of the ceramic particles and forms the at least one of spot and surface connection between the ceramic particles is a borosilicate glass, an aluminum borosilicate glass or a lithium aluminum silicate glass.

25. The ceramic multi-layer filter according to claim 19, wherein the quantity of material, which wets the surface of the ceramic particles and forms the at least one spot and surface connection between the ceramic particles, is selected in terms of size in such a way that the pore volume and the pore size between the particles is reduced only slightly by the material.

26. The ceramic multi-layer filter according to claim 25, wherein the quantity of material, which wets the surface of the ceramic particles and forms the at least one spot and surface connection between the ceramic particles, is selected in terms of size in such a way that the pore volume and the pore size between the particles is reduced by not more than 10%.

27. The ceramic multi-layer filter according to claim 19, wherein the ceramic particles of at least two layers differentiate from one another in a ratio of 1 : 5 to 1 : 10 in terms of their average particle size.

28. The ceramic multi-layer filter according to claim 19, wherein the particles of the support layer have an average particle size of 20 to 50 μm.

29. A process for producing a ceramic multi-layer filter, said ceramic multi-layer filter comprising:

at least two layers, said at least two layers comprising the same or different ceramic materials, and a different particle size of ceramic particles in said at least two layers;

one of said at least two layers is a support layer and at least one other layer of said at least two layers is present as a layer with ceramic material with a smaller particle size;

particle surfaces of all ceramic particles in each of said at least two layers, during formation of said at least two layers, are wet entirely or partially with at least one material which wets the surfaces of the ceramic particles and has the same or approximately the same thermal coefficient of expansion as the ceramic particles, and the particle size, particle morphology and particle composition/crystal structure of the ceramic particles is not altered or only slightly altered, and in which at least one of spot and surface connections are formed between the particles; and

pore volume and pore size between the ceramic particles is reduced by the material only slightly or only partially but not by more than 50%;

said process comprising:

providing at least two ceramic slurries containing at least two ceramic powders of the same or different composition but different particle sizes,

wetting particles of the ceramic powders with a material having the same or approximately the same thermal coefficient of expansion as the ceramic particles, and which does not or only slightly alters the particle size, particle morphology and particle composition/crystal structure of the ceramic powder and which forms at least one of spot and surface connections in the case of a temperature change between the particles, where the material is only added in a quantity that coats the ceramic particles so that the pore quantity and pore size between the particles is reduced by the material only slightly or only partially but not more than 50%;

forming at least one layer from said at least two slurries;

partially or completely drying the formed layer;

forming at least one other layer on the formed and dried layer comprising ceramic particles with a smaller particle size than the already formed and dried layer; and

jointly subjecting the formed and dried layer and the at least one other layer to a temperature increase to form the at least one of spot or surface connection between the ceramic particles by the material.

30. The process according to claim 29, wherein the at least two ceramic slurries contain forming and sintering auxiliary agents.

31. The process according to claim 29, wherein the material comprises a material that is added to the ceramic slurries in powdered form, and the material wets the surface of the ceramic particles when subjected to a temperature increase.

32. The process according to claim 29, wherein the material forms a liquid phase during increasing temperature.

33. The process according to claim 32, wherein the liquid phase has a high surface tension.

34. The process according to claim 29, wherein the material has liquid phase which partially or completely crystallizes during cooling.

35. The process according to claim 29, wherein the material comprises a pulverized material that is homogeneously distributed in the at least two ceramic slurries, and, after drying, is distributed homogeneously on the surface of the ceramic particles.

36. The process according to claim 29, in which the ceramic particles are wet with the material before manufacturing the ceramic slurry.

37. The process according to claim 36, in which the ceramic particles are wet with the material using a chemical method.

38. The process according to claim 37, wherein the chemical method comprises co-precipitation.

39. The process according to claim 29, wherein the temperature increase is performed under air.